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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,115	10/02/2003	Lien-Jin Chiang	CHIA3057/EM	6034
23364	7590	11/01/2007		
BACON & THOMAS, PLLC 625 SLATERS LANE FOURTH FLOOR ALEXANDRIA, VA 22314			EXAMINER BUI, HUNG S	
			ART UNIT 2841	PAPER NUMBER
			MAIL DATE 11/01/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/676,115	<b>Applicant(s)</b> CHIANG ET AL.	
	<b>Examiner</b> Hung S. Bui	<b>Art Unit</b> 2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 7 and 9-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4-6 and 8 is/are rejected.
- 7) ☒ Claim(s) 2 and 3 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01/03/2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 08/23/2007 has been entered.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nygren et al. [US 6,201,705] in view of Pleitz et al. [US 5,521,792].

**Regarding claim 1**, Nygren et al. disclose an electronic apparatus with natural convection structure (figures 1-3), comprising:

- a main body (1, figures 1 and 3) to be placed on a surface, the main body having an airflow channel (4a-4b, figure 1, column 6, lines 4-15) piercing through the main body from a top surface to a bottom surface thereof, wherein the airflow channel is formed by an inner wall (see figure 2)

- extending from an exterior of the top surface to an opposite exterior of the bottom surface;
- at least a printed circuit board (2, figure 1, column 5, line 64) disposed in the main body.

Nygren et al. disclose the instant claimed invention except for the main body being mounted on at least one support device.

Pleitz et al. disclose an electronic module (40, figure 5, column 6, line 37) having a plurality of mounting support devices (48, figure 5, column 4, line 47) being mounted on the bottom of the electronic module.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to add the support device design at the bottom of the electronic module of Nygren et al., as suggested by Pleitz et al., for the purpose of providing spacer between the bottom of the electronic module and a base, and providing a gap to let air flow therethrough the piercing channel of the electronic module to dissipate heat generated therefrom the electronic module.

**Regarding claim 4**, Nygren et al., as modified, disclose the instant claimed invention except for the specific height of the support device is at least 3 mm.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to design the specific height of the supporting device to be provided for the electronic apparatus, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F 2d 272,205 USPQ 215 (CCPA 1980).

**Regarding claim 6**, Nygren et al., as modified, appear to disclose wherein the distances from the airflow channel to the edges of the main body are substantially equal (figure 3).

**Regarding claim 8**, Nygren et al., as modified, disclose wherein the surface of the main body and the airflow channel are integrally formed (see figure 3).

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nygren et al., as modified, as applied to claim 1 above, and further in view of Chuang [US 2004/0095713].

**Regarding claim 5**, Nygren et al., as modified, disclose the instant claimed invention except for the electronic apparatus being formed of a power supply.

Chuang discloses an electronic apparatus (3, figure 3, page 1, paragraph 0016, line 2) having a plurality of ventilation holes (34) mounted thereon and being formed of a power supply.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the electronic apparatus of Nygren et al., as modified, for a power supply, as suggested by Chuang, for the purpose of dissipating heat quickly from the components of the power supply.

***Allowable Subject Matter***

5. Claims 2-3 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The reason for allowance for claims 2-3 had been indicated in the Office Action mailed on 04/23/2007.

***Response to Arguments***

6. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lanni [US 7,265,973] discloses power adapter with fan assembly;
- Collins et al. [US 5,218,516] disclose electronic module;
- Gates [US 5,844,777] discloses apparatus for heat removal from a PC card array;
- Straub, Jr. et al. [US 7,180,737] disclose heat exchanger system for circuit card assemblies; and
- Fukuda et al. [US 6,927,980] disclose cooling structure for disk storage device.

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8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung S. Bui whose telephone number is (571) 272-2102. The examiner can normally be reached on Monday-Friday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gutierrez F. Diego can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



10/26/2007  
**Hung Bui**  
**Art Unit 2841**